

Appl. No. 10/648,956

**Dated 03/25/2005**

Reply to Office Action of 12/28/2004

# Appendix I

PRELIMINARY AMENDMENT

Filed 08/27/2003

3239P081D2

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : Unassigned  
Applicant : Rajiv Ramaswami, et al.  
Filed : 08/26/2003  
Title : METHOD AND APPARATUS FOR REGENERATING OPTICAL  
SIGNALS IN AN ALL-OPTICAL CROSS-CONNECT SWITCH"  
(As Amended)  
TC/A.U. : Unassigned  
Examiner : Unassigned  
  
Docket No. : 003239.P081D2  
Customer No. : 8791

## Which is a Divisional of:

Appl. No. : 09/704,439 Confirmation No. 4777  
Applicant : Rajiv Ramaswami, et al.  
Filed : 11/01/2000  
Title : METHOD AND APPARATUS FOR OPTICAL TO ELECTRICAL  
TO OPTICAL CONVERSION IN AN OPTICAL CROSS-  
CONNECT SWITCH  
TC/A.U. : 2874  
Examiner : Brian Healy

PRELIMINARY AMENDMENT  
ACCOMPANYING

35 USC 120 and 37 CFR 1.53(b) (1) DIVISIONAL APPLICATION

Mail Stop New Application  
Commissioner for Patents  
Alexandria, VA 22313.

Dear Sir:

Prior to a calculation of fees and a first examination in  
the 35 USC 120 and 37 CFR 1.53(b) (1) divisional application  
filed herewith, please enter the following amendments and  
remarks:

Amendments to the TITLE begin on page 2.

Amendments to the SPECIFICATION begin on page 3.

Amendments to the CLAIMS begin on page 5.

REMARKS begin on page 10.

CONCLUSION and signature is on page 13.

42P14037D2

-1-

Exp. Mail No. EV323393533US

IN THE TITLE

Please amend the title as follows:

"METHOD AND APPARATUS FOR REGENERATING OPTICAL SIGNALS TO  
~~ELECTRICAL TO OPTICAL CONVERSION~~ IN AN ALL-OPTICAL CROSS-CONNECT  
SWITCH"

IN THE SPECIFICATION

Please amend the Specification as follows:

Page 1, line 4, under the CROSS-REFERENCE TO RELATED APPLICATIONS section, please amend the paragraph starting thereat into two paragraphs as follows:

"This non-provisional United States (U.S.) patent application claims the benefit of and is a divisional of U.S. Patent Application No. 09/704,439 filed on November 1, 2000 by inventors Rajiv Ramaswami, et al., entitled "METHOD AND APPARATUS FOR OPTICAL TO ELECTRICAL TO OPTICAL CONVERSION IN AN OPTICAL CROSS-CONNECT SWITCH", now allowed.

The parent patent application, U.S. Patent Application No. 09/704,439, claims the benefit of U.S. Provisional Patent Application No. 60/162,936 entitled "OPTICAL CROSSCONNECT WITH OPTICAL TO ELECTRICAL CONVERTERS" filed on November 2, 1999 by inventor Rajiv Ramaswami; and also claims the benefit of U.S. Provisional Patent Application No. 60/170,094 entitled "OPTICAL CROSSCONNECT WITH BRIDGING, TEST ACCESS AND REDUNDANCY" filed on December 10, 1999 by inventors Rajiv Ramaswami and Robert Ward; and also claims the benefit of U.S. Provisional Patent Application No. 60/170,095 entitled "OPTICAL CROSSCONNECT WITH LOW-LOSS BRIDGING, TEST ACCESS, AND REDUNDANCY" filed on December 10, 1999 by inventors Steven Clark and Rajiv Ramaswami; and also claims the benefit of U.S. Provisional Patent Application No. 60/170,093 entitled "1+1 OPTICAL PROTECTION USING OPTICAL CROSSCONNECTS" filed on December 10, 1999 by inventors Rajiv Ramaswami and Robert Ward-which is incorporated herein by reference; and also claims the benefit of U.S. Provisional Patent Application No. 60/170,092 entitled "SIGNALING INTERFACE BETWEEN OPTICAL CROSSCONNECT AND ATTACHED EQUIPMENT" filed on December 10, 1999 by inventor Rajiv

Ramaswami; and also claims the benefit of U.S. Provisional Patent Application No. 60/186,108 entitled "1:N PROTECTION BETWEEN CLIENTS AND ALL-OPTICAL CROSSCONNECTS" filed on March 1, 2000 by inventors Kent Erickson, Subhashini Kaligotla, and Rajiv Ramaswami; and also claims the benefit of U.S. Provisional Patent Application No. 60/200,425 entitled "OPTICAL CROSSCONNECT SYSTEM" filed on April 28, 2000 by inventors Rajiv Ramaswami, Steve Tabaska, and Robert Ward."

IN THE CLAIMS

Please cancel claims 1-21, and 26-93 without prejudice.

The following listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Pending Claims:

1 1-21. (Cancelled)

1 22. (Original) A method of regenerating optical  
2 signals in an all-optical cross-connect switch, the method  
3 comprising:  
4 providing one or more smart port cards, each of the  
5 one or more smart port cards including an optical-  
6 electrical-optical converter in an optical path, the  
7 optical-electrical-optical converter to convert an input  
8 optical signal into an electrical signal and the electrical  
9 signal into an output optical signal, the output optical  
10 signal being responsive to the input optical signal;  
11 providing one or more passive port cards, the one or  
12 more passive port cards without an optical-electrical-  
13 optical converter; and  
14 generating an optical path through an optical switch  
15 fabric of optical switches for optical signals to flow  
16 between the one or more smart port cards and the one or  
17 more passive port cards.

1 23. (Original) The method of claim 22 wherein

2 the optical-electrical-optical converter is in the  
3 input optical path of each of the one or more smart port  
4 cards; and  
5 the generating of the optical path through the optical  
6 switch fabric couples the input optical path of the smart  
7 port cards to the output optical path of the passive port  
8 cards.

1 24. (Original) The method of claim 22 wherein  
2 the optical-electrical-optical converter is in the  
3 output optical path of each of the one or more smart port  
4 cards; and  
5 the generating of the optical path through the optical  
6 switch fabric couples the input optical path of the passive  
7 port cards to the output optical path of the smart port  
8 cards.

1 25. (Original) The method of claim 22 wherein  
2 the optical-electrical-optical converter monitors the  
3 optical signal.

1 26-93. (Cancelled)

1 94. (Original) An apparatus for regenerating  
2 optical signals in an all-optical cross-connect switch, the  
3 apparatus comprising:  
4 a smart port card, the smart port card including  
5 an optical-electrical-optical converter in an optical  
6 path, the optical-electrical-optical converter to convert

7 an input optical signal into an electrical signal and the  
8 electrical signal into an output optical signal.

1 95. (Original) The apparatus of claim 94 wherein  
2 the output optical signal is substantially similar to  
3 the input optical signal.

1 96. (Original) The apparatus of claim 94 wherein  
2 the optical-electrical-optical converter provides  
3 wavelength conversion such that the output optical signal  
4 has substantially similar information content as that of  
5 the input optical signal but a differing photonic  
6 wavelength.

1 97. (Original) The apparatus of claim 94 wherein  
2 the optical-electrical-optical converter is in the  
3 input optical path of the smart port card.

1 98. (Original) The apparatus of claim 94 wherein  
2 the optical-electrical-optical converter is in the  
3 output optical path of the smart port card.

1 99. (Original) The apparatus of claim 94 wherein  
2 the optical-electrical-optical converter provides a  
3 tap to the electrical signal to monitor the optical signal.

1 100. (Original) A method of regenerating optical  
2 signals in an all-optical cross-connect switch, the method  
3 comprising:



2       the converting of the first optical signal into the  
3       electrical signal allows for monitoring of the first  
4       optical signal.

1       105. (Original)       The method of claim 100 wherein,  
2       the first optical signal has a first wavelength and  
3       the second optical signal has a second wavelength differing  
4       from the first wavelength.

REMARKS

Prior to a calculation of fees and a first examination of the divisional application filed herewith, please enter the foregoing amendments and the following remarks.

Claims 1-21, and 26-93 have been cancelled without prejudice by this preliminary amendment. Accordingly claims 22-25 and 94-105 are currently pending in this divisional application. Of the pending claims, claims 22, 94, and 100 are independent claims. Applicant believes no new matter has been added by this paper.

I) Divisional Application

The application papers filed herewith are a true copy of the prior complete application filed on November 01, 2000 having Serial Number 09/704,439. This divisional application is filed under Rule 1.53(b) and claims the benefit of the Patent Application No. 09/704,439 filed November 01, 2000 under 35 U.S.C. 120 and 37 CFR 1.78(a).

The parent patent application further claims the benefit of the following: U.S. Provisional Patent Application No. 60/162,936 entitled "OPTICAL CROSSCONNECT WITH OPTICAL TO ELECTRICAL CONVERTERS" filed on November 2, 1999 by inventor Rajiv Ramaswami; and also claims the benefit of U.S. Provisional Patent Application No. 60/170,094 entitled "OPTICAL CROSSCONNECT WITH BRIDGING, TEST ACCESS AND REDUNDANCY" filed on December 10, 1999 by inventors Rajiv Ramaswami and Robert Ward; and also claims the benefit of U.S. Provisional Patent Application No. 60/170,095 entitled "OPTICAL CROSSCONNECT WITH LOW-LOSS BRIDGING, TEST ACCESS, AND REDUNDANCY" filed on December 10, 1999 by inventors Steven Clark and Rajiv Ramaswami; and also claims the benefit of U.S. Provisional Patent Application No.

60/170,093 entitled "1+1 OPTICAL PROTECTION USING OPTICAL CROSSCONNECTS" filed on December 10, 1999 by inventors Rajiv Ramaswami and Robert Ward; and also claims the benefit of U.S. Provisional Patent Application No. 60/170,092 entitled "SIGNALING INTERFACE BETWEEN OPTICAL CROSSCONNECT AND ATTACHED EQUIPMENT" filed on December 10, 1999 by inventor Rajiv Ramaswami; and also claims the benefit of U.S. Provisional Patent Application No. 60/186,108 entitled "1:N PROTECTION BETWEEN CLIENTS AND ALL-OPTICAL CROSSCONNECTS" filed on March 1, 2000 by inventors Kent Erickson, Subhashini Kaligotla, and Rajiv Ramaswami; and also claims the benefit of U.S. Provisional Patent Application No. 60/200,425 entitled "OPTICAL CROSSCONNECT SYSTEM" filed on April 28, 2000 by inventors Rajiv Ramaswami, Steve Tabaska, and Robert Ward.

#### II) Specification

In the Cross-Reference to Related Applications section, on page 1, line 4, the paragraph therein has been amended to reflect the cross-noted applications to which this divisional patent application claims the benefit thereof.

#### III) Restriction Requirement

In the Office Action mailed on 02/13/2002 in the parent patent application, Claims 1-105 were restricted into four claim groups (I-IV) under 35 U.S.C. 121. The following is the four groupings of the claims:

Group I :	Claims 1-21, 26-31, and 66-74
Group II:	Claims 22-25, and 94-105
Group III:	Claims 32-50, and 75-93
Group IV:	Claims 51-65

In the parent patent application, Applicant elected and prosecuted claims 1-21, 26-31, and 66-74 of Group I and cancelled without prejudice claims in Groups II, III, and IV.

In this divisional application, original claims 22-25 and 94-105 of Group II are presented for a first examination on the merits.

As recited in the restriction requirement, Group II claims are drawn to "a method and apparatus for regenerating optical, classified in claims 385, subclass 88.

Accordingly, Applicant has cancelled claims 1-21, and 26-93, corresponding to Groups I, and III-IV claims, without prejudice in order to comply with the restriction requirement.

IV) Title

Applicant has amended the Title of the application.

It is believed that the amended Title of the application is in accordance with the invention being claimed and the search class of the restriction requirement.

CONCLUSION

A first examination of the pending claims is respectfully requested.

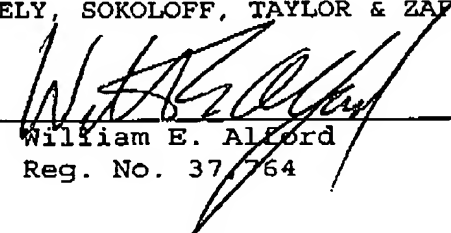
The Examiner is invited to contact Applicant's undersigned counsel by telephone at (714) 557-3800 should there be any questions.

Please charge any shortage in fees in connection with the filing of this paper to Deposit Account 02-2666 and please credit any excess fees to such deposit account.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAPMAN, LLP

Dated: August 27, 2003

  
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William E. Alford  
Reg. No. 37,764